

PATENT

**IN THE UNITED STATES PATENT & TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS & INTERFERENCES**

Applicant:	ZHAO ET AL.)	
)	Examiner K. Ferguson
Appl. No.	09/785,960)	
)	Art Unit 2683
Confirm. No.	2853)	
)	Atty. Docket No. CS90038
Filed:	16 February 2001)	
Title:	"GPS Assistance Messages in Cellular Communications Networks And Methods Therefor"		

APPEAL BRIEF UNDER 37 CFR 41.37(c)

Assistant Commissioner for Patents
Alexandria, Virginia 22313

Sir:

Real Party In Interest

The real party in interest is Motorola Inc., by virtue of an assignment duly executed by the named inventor(s) and recorded in the Patent Office on 6 April 2001 at Reel/Frame: 011702/0871.

Related Appeals & Interferences

There are no related appeals or interferences.

Status of Claims

Claims 1-10, 16-18 and 25-28 are pending. Claims 1-10 and 25-28 stand allowed. Claims 16-18 stand rejected and are the subject of the instant appeal. A copy of the claims pending is appended in Appendix A.

Status of Amendments

No amendments have been filed under 37 CFR 1.116 subsequent to the final rejection mailed on 4 October 2006.

Summary of Claimed Subject Matter

Independent Claim 16 is drawn to a satellite positioning system ephemeris data issue identifier stored on a computer-readable medium for transmission to a satellite positioning system enabled mobile station in a cellular communications network. Page 3, line 22 – page 4, line 14; page 5, lines 1-5; page 6, lines 8 – 16, and FIGS. 1 & 2. The satellite positioning system ephemeris data issue identifier comprises a first field with satellite identifier data, and a second field with an ephemeris sequence number. Page 5, lines 8 – page 6, line 2 and FIGS. 4 & 5.

Grounds of Rejection For Review on Appeal

Whether Claims 16-18 comport with 35 USC 101.

Arguments

Rejection Summary

Claims 16-18 stand rejected under 35 USC 101 as being drawn to non-statutory subject matter. In the final Office action mailed on 5 October 2006, the Examiner alleges that

... Claim 16 addresses a data structure stored on a computer readable medium for transmission on a wireless signal carrier.... A data structure modulate [sic] on a wireless carrier signal is considered functional descriptive material....

And in response to Applicants request for a pre-appeal brief review conference, the conferees affirmed the examiner's rejection in an Official Notice mailed on 31 January 2007.

Discussion

Independent Claim 16 is reproduced below:

A satellite positioning system ephemeris data issue identifier stored on a computer-readable medium for transmission to a satellite positioning system enabled mobile station in a cellular communications network, the satellite positioning system ephemeris data issue identifier comprising:

- a first field with satellite identifier data; and
- a second field with an ephemeris sequence number.

Contrary to the Examiner's assertion, Claim 16 does not cover data modulated on a wireless carrier signal. Claim 16 was amended by

Applicants on 18 July 2006 to recite an "... ephemeris data issue identifier stored on a computer-readable medium...." Generally, Claim 16 defines a physical or logical relationship among a satellite with its corresponding ephemeris sequence number (constituent data elements) of the "ephemeris data issue identifier" (a data structure), and more particularly the "ephemeris data issue identifier" interrelates the "first field with satellite identifier data" and the "second field with an ephemeris sequence number".

Claim 16 also includes a field of use for the ephemeris data issue identifier, and particularly states that the ephemeris data issue identifier is "... for transmission to satellite positioning system enabled mobile station in a cellular communications network...." There is no known proscription in patent Law or jurisprudence against specifying a field of use in a claim covering a data structure stored on a computer readable medium. The claimed "ephemeris data issue identifier" has utility since it enables a wireless communication terminal to determine whether it's necessary to update ephemeris data for the corresponding satellite.

Claims 16-18 are drawn to statutory subject matter recorded on a computer-readable medium, as provided in MPEP 2106 (IV)(B)(1), and thus the subject matter of Claims 16-18 is statutory. Kindly withdraw the rejection under 35 U.S.C. 101.

Prayer for Relief

Kindly reverse and vacate the rejections of claims, in view of the discussion above, with instructions for the Examiner to allow said Claims to

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issue in a United States Patent without further delay and provide other relief warranted.

Respectfully submitted,

/ R K Bowler /

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Claims Appendix

1. (Previously Presented) A method for updating a satellite positioning system ephemeris data issue identifier transmitted to a satellite positioning system enabled mobile station in a cellular communications network, comprising:

receiving satellite positioning system ephemeris data at a reference node in communication with a cellular communications network;

generating an assistance message including satellite positioning system ephemeris data and other parameters;

generating a satellite positioning system ephemeris data issue identifier;

receiving updated satellite positioning system ephemeris data and other updated parameters;

updating the satellite positioning system ephemeris data issue identifier only when the satellite positioning system ephemeris data has been updated.

2. (Previously Presented) The method of Claim 1, not updating the satellite positioning system ephemeris data issue identifier when parameters other than the satellite positioning system ephemeris data change.

3. (Previously Presented) The method of Claim 1,
transmitting a satellite positioning system ephemeris data issue identifier over the cellular communications network,

receiving the satellite positioning system ephemeris data issue identifier at a mobile station,

comparing the received satellite positioning system ephemeris data issue identifier with a corresponding satellite positioning system ephemeris data issue identifier stored at the mobile station,

reading a corresponding ephemeris assistance message at the mobile station only if the received satellite positioning system ephemeris data issue identifier is different than the stored satellite positioning system ephemeris data issue identifier.

4. (Previously Presented) The method of Claim 1,

receiving satellite positioning system ephemeris data from a plurality of satellites at a reference node in communication with a cellular communications network;

generating a plurality of assistance messages including satellite positioning system ephemeris data from the plurality of satellites and other parameters;

generating a satellite positioning system ephemeris data issue identifier for each of the plurality of assistance messages;

updating the plurality of satellite positioning system ephemeris data issue identifiers only when the satellite positioning system ephemeris data of the corresponding assistance message has been updated.

5. (Previously Presented) The method of Claim 4, encoding each of the satellite positioning system ephemeris data issue identifiers and a

corresponding satellite identifier in a corresponding sequence of binary digits, transmitting the sequence of binary digits over the network.

6. (Previously Presented) A method for updating a satellite positioning system almanac data issue identifier transmitted to a satellite positioning system enabled mobile station in a cellular communications network, comprising:

receiving satellite positioning system almanac data at a reference node in communication with a cellular communications network;

generating an assistance message including satellite positioning system almanac data and other parameters;

generating a satellite positioning system almanac data issue identifier;

receiving updated satellite positioning system almanac data and other updated parameters;

updating the satellite positioning system almanac data issue identifier only when the satellite positioning system almanac data has been updated.

7. (Previously Presented) The method of Claim 6, not updating the satellite positioning system almanac data issue identifier when parameters other than the satellite positioning system almanac data change.

8. (Previously Presented) The method of Claim 6,
transmitting a satellite positioning system almanac data issue identifier over the cellular communications network,

receiving the satellite positioning system almanac data issue identifier at a mobile station,

comparing the received satellite positioning system almanac data issue identifier with a satellite positioning system almanac data issue identifier stored at the mobile station,

reading an almanac assistance message at the mobile station only if the received satellite positioning system almanac data issue identifier is different than the stored satellite positioning system almanac data issue identifier.

9. (Previously Presented) The method of Claim 6, the satellite positioning system almanac data issue identifier is for a cell, updating the satellite positioning system almanac data issue identifier by incrementing a 2-bit data field when the almanac data in the reference node is updated.

10. (Previously Presented) The method of Claim 6, the satellite positioning system almanac data issue identifier for a Public Mobile Land Network (PLMN) value tag, updating the value tag by incrementing an 8-bit data field when the almanac data is in the reference node is updated.

Claims 11 -15 (Canceled).

16. (Previously Presented) A satellite positioning system ephemeris data issue identifier stored on a computer-readable medium for transmission to a satellite positioning system enabled mobile station in a

cellular communications network, the satellite positioning system ephemeris data issue identifier comprising:

- a first field with satellite identifier data; and
- a second field with an ephemeris sequence number.

17. (Previously Presented) The satellite positioning system ephemeris data issue identifier of Claim 16, the first field is at least 5 bits, the second field is at least 3 bits.

18. (Previously Presented) The satellite positioning system ephemeris data issue identifier of Claim 16 is a broadcast message.

Claims 19-24 (Canceled).

25. (Previously Presented) A method for updating a satellite positioning system navigation data value tag transmitted to a satellite positioning system enabled mobile station in a communications network, comprising:

- receiving satellite positioning system navigation data at a reference node in communication with the communications network;
- generating an assistance message including satellite positioning system navigation data;
- generating a satellite positioning system navigation data value tag;
- receiving updated satellite positioning system navigation data;

updating the satellite positioning system navigation data value tag only when the satellite positioning system navigation data has been updated,

the satellite positioning system navigation data including at least one of ephemeris and almanac data.

26. (Previously Presented) The method of Claim 25, encoding each of the satellite positioning system navigation data value tags in a corresponding sequence of binary digits as a 4-bit + 4-bit value tag, transmitting the sequence of binary digits over the network.

27. (Previously Presented) A satellite positioning system navigation data issue identifier value tag for transmission to a satellite positioning system enabled mobile station in a communications network, the satellite positioning system navigation data issue identifier value tag comprising:

a first field with 4 bits; and

a second field with 4 bits,

the satellite positioning system navigation data including at least one of ephemeris and almanac data.

28. (Previously Presented) The satellite positioning system almanac data issue identifier of Claim 26 is part of a broadcast message.

Claims 29-31 (Canceled).

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Evidence Appendix

(None)

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Related Proceedings Appendix

(None)